COVER PAGE FOR MASTER'S PROJECT

Ten years of Public-Private Water Supply Provision in Jakarta, Indonesia: Why private water supply management in Jakarta failed to achieve the expected improvements in efficiency and effectiveness of water delivery

by

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Chapter One: Introduction to the Research Question

1.1. Introduction

In 1998, a 25-year concession contract on the water supply provision for DKI Jakarta was signed between Perusahaan Air Minum Jakarta Raya (PAM Jaya) and Thames Water Overseas, with local partner: PT. Kekar Pola Airindo, on the east side, and Suez Lyonnaise des Eaux with local partner: PT. Garuda Dipta Semesta on the west side. The Ciliwung River divided Jakarta into two areas for the concessionaires (Lanti, 2006). The contract was signed and became effective in February 1998. The fall of the Suharto administration delayed the implementation of the contract. Later in 1998, new negotiations were started to move the contract forward. These negotiations resulted in a Restated Cooperation Agreement that was signed in October 2001. The Jakarta concession contract was among the biggest contracts executed in less developed countries. It was comparable in size to contracts in Manila, Philippines, and Buenos Aires, Argentina.

The service coverage expanded from 41% in 1995 to 62% in 2009, while many technical targets of the concession contracts were not achieved as expected. The private sectors have been criticized for only concentrating the expansion connections in the wealthier areas of the city (Bakker, 2004, p. 115), although the issue of connections, which related to other issues such as land and settlement issues with the local government of Jakarta in slum areas in Jakarta, existed prior to the concession contract.

1.2. Research questions

This paper focuses on public private partnership of drinking water supply in Jakarta. It aims to assess whether public private partnership in drinking water in an urban area in developing countries has succeeded or failed to achieve the expected improvements in efficiency and effectiveness of water delivery. To better address the efficiency and effectiveness expected, it is necessary to examine the progress of the public private partnership from the origin of the contract to 2009.

Further, the paper discusses conflicts in the system among the institutions and stakeholders involved and recommendations to overcome these conflicts. To understand the conflicts in the partnership, it is important to understand the perceptions of the stakeholders in drinking water supply in Jakarta.

1.3. Methodology

In order to understand the process of privatization and progress achieved in the past ten years, qualitative data were gathered through interviews with stakeholders involved in the process. Interviews were conducted through two methods: (1) face-to-face interviews; and (2) interviews through Skype. One face-to-face interview was conducted with a World Bank official in Washington, D.C. who is knowledgeable about the early situation of the public-private partnership of drinking water supply in Jakarta. The interview was recorded using Garage-Band software and was conducted in English.

Other interviews were conducted through phone conversations over Skype[1]. One stakeholder was interviewed in English was a Thames PAM Jaya representative who is knowledgeable of the negotiation process and another one who is aware of the progress between 2001-2005.

Other stakeholders that were interviewed in Bahasa Indonesia, include: (1) PAM Jaya; (2) Jakarta Water Regulatory Body; (3) KruHa, People's Coalition for the Right to Water, an active NGO with members in Jakarta, West Java, East Java, Central Java and Riau; and (4) an independent journalist experienced in investigating the public drinking water privatization process and its progress.

The purpose of the interviews were:

1. To gather information about the process of negotiation of public-private partnership of drinking water supply in Jakarta from the perspective of each stakeholder.
2. To gather information about the progress of this partnership and its current impact on Jakarta residents
3. To gather ideas from stakeholders about "what works and what does not" in this partnership and what could be done to make the contract more productive in the

[1] http://www.skype.com

next 12-years of the contract for all stakeholders.

The literature review focused on: (1) understanding the context of public private partnerships in drinking water supply in Jakarta by focusing on several cases of drinking water privatization in other developing countries such as the Philippines (in Manila) and Argentina (Buenos Aires); and (2) a detail review of the previous studies conducted on public - private partnerships in drinking water supply in Jakarta.

1.4. Research limitations

This paper is presented with limitations such as the in-availability of the concession contract to the public. The information obtained to examine the concession contract were based on a summary of the contract from the Jakarta Water Regulatory Body and based on interviews with stakeholders involved in the negotiation process and literature reviews. Another limitation included the inability of the writer to travel to Jakarta to conduct face-to-face interviews and site visits.

1.5. How the paper is organized

The paper is organized as follows: the first chapter contains the introduction to the topic of public drinking water privatization, the research question, and the methodology of research. The second chapter presents literature reviews that explain the history of the public drinking water privatization "movement" in the 1990s, public - private drinking water provision worldwide, and a review of previous studies related to the Jakarta water supply public private partnerships. The third chapter covers the overview of the study location, Jakarta, Indonesia, its geography, demographic and economic characteristics, and the history of the public drinking water supply provider, PAM Jaya. Chapter four contains the story of the public - private partnership process and analysis from interviews that review the technical as well as operational issues, legal and financial aspect.

Chapter five discusses the conflict among institutions will be analyzed using a four-quadrant approach for each institution involved in chapter five. Four-quadrant analysis is a tool that encourages a systematic problem-solving process that helps to understand the conflict situation (Fisher, 1994, p.69). The first quadrant, "What is wrong?", defines the symptoms and preferred situation as well as the gaps between them. The second quadrant

defines the "general diagnoses" of the situation through developing and understanding why a problem has not been resolved and also possible causes of the gap between the preferred situation and current stage of problems. The third quadrant is the "general approaches" and contains possible strategies to overcome identified diagnoses. The fourth quadrant is "action ideas" that describes possible solutions through actions by the parties involved. Lessons learned from this four-quadrant analysis will be examined.

Chapter six will conclude the paper with interpretation of findings, discussions, implications, and suggestions for further research.

Chapter Two: Literature Review

2.1. Purpose of the chapter

This chapter presents a literature review that explains the history of public drinking water privatization "movement" in the 1990s, public-private partnership in drinking water supply in other countries as well as achievements, and critiques of public service privatization in developing countries. A detailed review of the previous studies will also be presented in this chapter.

2.2. History of public drinking water supply privatization

2.2.1. The concept of water as an economic good

The understanding of water as an economic good is still considered controversial and not pro-poor. Although water in rivers, for example, is available for public use, the management of the water supply for citizens is not free of costs. To be able to deliver services of water connections to the population, government needs to cover the cost of capital to develop the infrastructure, and oversee its maintenance.

The misconception of water as a public good instead of an economic good contributes into the mismanagement of water resources. The United Nations Conference on Environment and Development declared a guiding principle of water as economic goods (Briscoe, 1995, p. 19). This is confirmed by the existence of informal water suppliers in urban areas in developing countries that prove the existence of water markets (Rosegant, Cline, 2002, p. 6). Easter and Archibald pointed out the function of a water market as a necessity to bring demand and supply into balance. Further, through the assessment of water markets, water has been under-priced in most of the developing countries (2002, p. 25). Rosegant and Cline (2002) mentioned that the low water price is one of the major causes of poor performance of water supply services.

2.2.2. The trend of public drinking water supply privatization

France and the United Kingdom started to privatize their public services earlier than the

developing countries. France started in 1987, while the United Kingdom started in 1982 (Dore, Kushner, Zumer, 2004. p. 41). The public - private partnership in public services was encouraged by several international financial institutions such as the World Bank in the 1990s and the Asian Development Bank in the early 2000s, based on the assumption that the private sector could expand services and improve efficiency better than the public sector (Hall, Lobina, 2004, p. 268). By the late 1990s, water privatization had started in many countries, including Indonesia and the Philippines.

In its policy paper *Water Resources Management* (1992), the World Bank laid out priorities to help local governments overcome the general water resources management. The World Bank stated:

> *"Governments have often misallocated and wasted water, as well as permitted damage to the environment as a result of institutional weaknesses, market failures, distorted policies, and misguided investments."* (p. 3)

The policy objectives for public - private partnership in water supply and sanitation are meant to create a more efficient and accessible delivery for water services and sewage collection, treatment, and disposal, with the ultimate goal of providing universal coverage (Watkins, 2006, p. 91). From the perspective of water as an economic good, the private sector was seen to be able to deliver the efficiency and effectiveness that the government failed to achieve. However, greater involvement of the government, non-governmental organizations, and customers are required to monitor the performance of the private sector in delivering services to the public. The requirement of government involvement is necessary to protect the public interest and to prevent exploitation of the market by the private sector. The regulation and the role of government are what differentiate this kind of partnership in developed countries versus in developing countries. The government's capacity in developed countries most likely will be more stable and capable of regulating the market and protecting the public from exploitation of service charges.

When discussing water privatization, another term, Public - Private Partnership (PPP), is often used. The Water Partnership Council differentiates these two terms: privatization (the sale or transfer of ownership from the public to private sector), and PPP (the public

partners with the private sector and still manages the assets and later will be the sole owner of the asset at the end of the contracts) (Pribadi, 2009, p. 2). Table 1 describes the types of public - private partnerships in drinking water supply provision.

Table 1. Type of public-private partnership in drinking water supply provision

Option	Owner-ship	Manage-ment	Invest-ment	Risk	Duration (years)	Examples
Service contract	Public	Shared	Public	Public	1 to 2	Finland, Maharashta (India)
Manageme nt contract	Public	Private	Public	Public	3 to 5	Johannesburg (South Africa), Monagas (Venezuela), Atlanta (United States)
Lease (*aftermage*)	Public	Private	Public	Shared	8 to 5	Abidjan (Coté d'Ivoire, Dakar (Senegal)
Concession	Public	Private	Private	Private	20 to 30	Manila (Philippines), Buenos Aires (Argentina), Durban (South Africa), La Paz-El Alto (Bolivia), Jakarta (Indonesia)
Privatization (state divestiture)	Private	Private	Private	Private	Unlimite d	Chile, United Kingdom

Source: Human Development Report, UNDP, 2006

In concession contracts, the government awards the full responsibility to private partners to deliver infrastructure services including operation, maintenance, collection, and management activities. Once the contract is ended, the public sector becomes the full owner of the facilities and manages the system. The nature of the public – private partnership in infrastructure projects including water supply are the sharing of investment risks, responsibilities and rewards between public and private partners. The challenge of concession contracts is the length of time, which complicates the distribution of profits that increases the risks external to the contracts, such as change of power or administration, macroeconomic conditions, and water resources challenges (Wu, 2008).

2.3. Case study: public drinking water supply privatization in Buenos Aires

Public drinking water supply privatization in Buenos Aires was the largest case of privatization efforts in public services in Argentina, intended to reverse economic decline (Galiani, et al, 2005, p. 89). The Buenos Aires concession was signed in 1993 and was

revoked in 2006, which transferred the water company to the Aquas Argentinas from a federal company Obras Sanitarias de la Nación (OSN).

In 1993, firms bid to the concession offered the lowest tariff and favored to the universal connections of households. However, after the contract was in effect, the company selected, Aguas Argentinas, increased usage fees 13.5 percent and charged connection fees that reached a month's maximum earning for a household at the official poverty line. The company lowered the fees only after a public unrest (Galiani, et al, 2005, p. 107).

The result of this program was controversial. There was a dispute whether the efficiency of privatization was created by investments in high-income areas and therefore excluded the low-income areas that had lower return investments. Privatization also increased efficiency by reducing the number of employees by half and increased the level of productivity. The efficiency gained enabled the company to invest more than eight times of what the previous company invested (US $200 million after privatization, compared to US $25 million prior to privatization). Through these investments, the number of water and sewerage networks in Buenos Aires expanded by 30 percent and 20 percent, with some of them concentrated in poorer areas. The experience of Buenos Aires is unique to the capital city and differed from the rest of the cases in other municipalities in Argentina since in other municipalities the development of water network to the poor residential areas were minimal (Galiani, et al, 2005, p. 107).

2.4. Case study: public drinking water supply privatization in Manila, Philippines

The Metropolitan Waterworks and Sewerage System (MWSS) public private partnership was initiated by President Ramos, although his predecessor, President Aquino, had laid out the foundation to involve the private sector in hundreds of government-owned companies during her administration. President Ramos' direct contribution to the advancement of the MWSS privatization was indispensable in terms of making people aware of the water crisis and developing a consensus on the need to address it.

In January 1997, a 25-year concession contract for MWSS Manila was awarded to two private partners by dividing Metro Manila into two different areas of operations: (1) West Zone: Maynilan Water Services, Inc., a joint venture of French Suez and a local company

Filipino Benpress Holding; and (2) East Zone: Manila Water Company, Inc., a joint venture of British United Utilities, Bechtel, a US company and Filipino Ayala Corporation, a local company (see Graphic 1). The West Zone, including old Manila and the southern Province of Cavite, represented 60% of the population. The East Zone, including the business district of Makati and the expanding suburbs in the eastern part of the City, accounted for 40% of the population. The split system created a form of quasi-competition between the two concessionaires, which actually mimicked the system in Paris that was split on each bank of Seine River (Wu, 2008). The contract was between the government and private partners, while MSWW retained the ownership of the assets. The key objectives were to rapidly improve quality and efficiency, expand services, reduce water tariffs and end expensive government subsidies (Rosenthal, 2001, p.3).

Graphic 1. Metro Manila Water Concession Map

Source: Wu, 2008

Prior to the contract, an open bidding process was conducted to make sure the tender was transparent. The project covered a combined population of 11 million in the West and East

Zones, with investments over US $7 billion. A newly created independent regulator office, MWSS Regulatory Office, was created outside of the contract. The legal basis of this partnership was the Water Crisis Act in 1995 and the Executive Order 311 (Dumol, 2000).

The determination of the value of the internal rate of return was defined in the contract as the prevailing rate for similar infrastructure projects in developing countries. However, because of the unexpected events such as the Asian financial crisis and the devaluation of the peso forced one of the concessionaires, Mayniland, into bankruptcy in 2003. The high fixed capital costs and the increasing rate of returns actually created natural monopoly (Wu, p. 211, 2008). Mayniland returned the asset to MWSS, but the East Zone is still operating now. Xun Wu and Malaluan (2008) mentioned that there are external and internal factors that affected this result. External factors such as political support, institutional structure, the design of the contract, transparency of the bidding process, public perception, and impacts of unforeseeable events (such as severe droughts and devaluation of the Philippines' currency) disturbed the target coverage, and internal factors included corporate governance, financial management and operation management (p. 219). Although corruption was not a major problem, there were the inherent weaknesses in the government-owned and controlled corporations in terms of personnel, procurement, and financing.

2.5. Previous studies of public private partnership in Jakarta's water supply provision

Public - private partnership in drinking water provision in Jakarta has become a source of controversy in the past ten years. Many research studies aimed to understand the first public - private partnership in public service in Indonesia. In this section, we will discuss several studies related to the partnership.

Zakaria (2008) evaluated the pro-poor water supply program in Jakarta related to the public - private partnership in drinking water supply. Several programs evaluated were: cross subsidy, connection fee payment in installments, output based aid project, and water stations placement in unconnected areas. However, through the writer's observation from literature reviews and interviews, the public private partnership was not intended to have an element of "pro-poor" program, since the initiative came from President Suharto, aimed

to increase Jakarta's capacity as an international city. The focus in providing water networks to the poor merely an effect of the expanded capacity but not necessarily the main goal of this partnership. This is confirmed by Zakaria's study that despite these pro-poor programs, the connections to poor households were minimal.

Zakaria mentioned that the issues of pro-poor programs were affordability and access to water. However, it was not clear on how affordability measure was calculated. In Jakarta, people who were not connected to a piped water network bought their water from vendors and paid five to ten times more than those connected to the piped water network (Watkins, 2006). Therefore, there must be other factors that influenced the low number of connections of poor households. One factor could be the connection fee, which Zakaria mentioned was one of the obstacles for the poor to connect to the piped water networks. In the past five years, both the concessionaires provided 12-month and 24-month installments of payments for people who wanted to establish new connections to the network. Another factor could be the resistance from existing water vendors who were threatened to lose their income if more households were connected to the piped water network (Zakaria, 2005, p. 29).

Zakaria concluded that cross subsidy tariff scheme was not effective to increase connections to the poor households. The cross subsidy system allowed higher income customers to subsidize lower income customer, but failed to encourage customers to connect with the piped water network (Zakaria, 2005, p. 29). Although cross subsidy tariff seemed to be protecting lower income customers, it created a steep deficit in the operational cost of the service.

Zakaria examined the output-based project of the World Bank that was implemented in 2006. The global output-based project was a loan program to increase connections among the poor households. In this program, private concessionaires invested in the new connections, and if the targets were achieved, the expenses of the project would be reimbursed[2].

[2] Source: personal interview with the World Bank official, Washington, D.C.

The debate whether public or private provision has more merit, according to Bakker (2008), had diverted attention from the issue of governance reform. In her paper published in World Development Journal, Bakker found that governance failure produced important disincentives to connect the water supply to poor households and for poor households to choose to connect to the water supply system. She documented where this unconnected population lived in Jakarta through GIS-based mapping. It showed that slums areas where mostly not covered by the water supply network. In addition, she also documented that poor households made the choice of not connecting to the water supply network because of the transaction status, housing and residence status, security of water supply, and perception of water quality (2008, p. 1903).

Iwan (2008) evaluated the public - private partnership through the perspective of one of the concessionaires, Thames PAM Jaya who was responsible for the management of the eastern part of Jakarta drinking water service. The criteria to declare the project failure were based on water quality, continuity and water pressure, water tariff, and weak law enforcement. The analysis concluded that the public - private partnership in the eastern part of Jakarta did not bring improvement to the region's drinking water service, and Thames PAM Jaya had failed in fulfilling targets set in the cooperation agreement. Iwan mentioned that the contributing factors to the failure were lack of transparency and public tendering that short-circuited the search for a competent partner, political interference in the bidding process, and corruption. This conclusion was based on an evaluation of only one of two private partners, which did not represent the situation of the entire partnership.

Another study conducted in 2008 by Heni Kurniasih examined the consequences of the public - private partnership in drinking water in Jakarta. Kurniasih underlined that residents who had services were affected by increasing tariff but low quality water services, and for the low-income residents, the service provision is also poor because water service expansion is mainly based on profit considerations. Since the low-income residents paid the lowest tariff, connecting and maintaining services for them would be a loss-making for the water provider. Kurniasih mentioned that the privatization contract would exclude reasons such as legal issues of the poor household settlements that used to prevent PAM Jaya from providing water connections. Providing water connections to the slums communities would mean recognizing the illegal settlements; the government of Jakarta has been reluctant to

provide any public services in the poor household settlements because of this particular reason. The public- private partnership was expected to change this situation, but it failed to meet the expectation of the public; therefore connection expansions of the poor households were excluded. Kurniasih mentioned that the fundamental problems underlying water public private partnership in Jakarta were governance problems, regulation, and technical performance problems. Another consequence of the project is the neglect of environmental problems such as water scarcity issues.

Endo (2004) focused on the type of regulatory system that might work best in practice. He proposed three perspectives of economic regulations as an anti-market power mechanism, independent regulators as an anti-corruption instrument, and pro-poor policy. It highlights and echoes the other studies and the writer's observations about the unclear role of PAM Jaya as an asset manager but acting as a regulator.

Through these studies we can see how the public - private partnership was viewed as a mistake taken by the government that has not improved the condition of public drinking water services in Jakarta.

Chapter Three: Overview of Jakarta, Indonesia

3.1. Geography, demographic, and economic characteristics of Jakarta, Indonesia

Jakarta is the name of a city and a province. The official name of the city is Daerah Khusus Ibukota (DKI) Jakarta, which translates Special Capital City District of Jakarta. DKI Jakarta as a province has special status as the capital of Indonesia and is divided into five kotamadya or cities, each headed by a mayor and one regency (kabupaten) headed by a regent: Central Jakarta, West Jakarta, South Jakarta, East Jakarta, and North Jakarta, and Thousand Islands Regency.

Jakarta, with a population of 9,900,000 and an area of 255 square miles is the twelfth largest city in the world. Its population density is 137,000 people/km^2. The local government could not accommodate the rapid population growth through zoning and urban planning. Rapid urbanization and the population explosion from the 1960s to the 1990s made the water supply condition worse (Kurniasih, 2008, p. 3).

Population growth has outgrown the government's ability to provide basic needs for its residents. About 7.2 million people are without access to improved drinking water. Because of the geographic location of Jakarta in a coastal area, the availability of ground water is limited and polluted. Contaminations of water resources have also been an ongoing concern. The rapid exploitation of ground water through well digging has made water became saline in the coastal areas of Jakarta, especially North and West Jakarta (Lovei, Whittington, 1993, p. 1966).

Water from municipal connections has become the only option when the available groundwater is not safe to drink because of the high contamination from industrial pollutions. The rest of the population relies on well water, standpipes, and door-to-door water providers (Crane, 2004, p. 71). Water distributed through municipal piped connections is not potable; residents are advised to boil drinking water prior to consumption. A household survey by the United Nations Development Programme (2006) shows that almost two in every three people in Jakarta use multiple sources of water,

including shallow and deep wells (both protected and unprotected), standpipes and water vendors (p. 81).

Jakarta's economic growth in 2009 was 5.01 percent higher compared to 2008, with the highest growth from communication and transportation sector of 15.63 percent, services 6.4 percent, and construction 6.20 percent. The Gross Domestic Regional Product of Jakarta is IDR 757.02 trillion (US $8.3 billion)[3]. The economic development in Jakarta since President Sukarno and continued to President Suharto administration had been focused into landmark developments (such as the National Monument with fire shaped made of gold, sport stadiums, museums, which would showcase Jakarta as an international city).

Jakarta consists of two "cities", a cluster of high-income residents in gated housing complex and a series of kampung (village), but sometimes denotes poorer neighborhoods in the city. These two types of communities represent the sharp gap between the rich and the poor in Jakarta. Kampung is not synonymous with slums; it has a number of permanent buildings with a mix of middle and low-income residents. It is estimated that 20 to 65 percent of Jakarta residents live in an area of 180 square km and 60-70 percent of them urban kampung, with population density of 30,300 persons per square kilometers (Sujarto, 2002).

About four to five percent of the population lives illegally in the slums because of the rising cost of land; they are often forced to move out of their "houses". In Jakarta, slums have grown "organically" with emigration from the surrounding villages. Residents claimed abandoned spaces near rivers, bridges, rail-road tracks to develop their dwellings with semi-permanent building materials. Often times, they ended up staying longer in the area and established more permanent dwellings. The legality of land has prevented the government from providing any services to these areas, including piped water, since doing so would mean recognizing the area and their land ownership.

3.2. History of PAM Jaya

In order to understand the condition of water supply provision prior to the public - private partnership, the history of PAM Jaya will be reviewed. Perusahaan Air Minum Jakarta Raya, (PAM Jaya) is one of the 319 state-owned enterprises (SoEs) in drinking water supply in

[3] Source: http://jakarta/bps/go.id/BRS/PDRB/PDRB_0904.pdf

Indonesia. Each municipality in Indonesia has its own drinking water supply company called PDAM (Perusahaan Daerah Air Minum). The history of PAM Jaya started in the colonial era in 1843, when Jakarta was still called Batavia and the main water source was a borehole well.

In 1920, PAM Jaya used water resources from Ciomas-Ciburial Bogor, an adjacent suburb, with the capacity of 484 liters per second. PAM Jaya continued to grow under the regional government by increasing water supply capacity and developing water plants. In 1977, PAM Jaya was managed under the regional government of the Jakarta Special Province as an independent water company. Although PAM Jaya had been working to increase its capacity to serve the population, it was unable to keep up with population growth of the city. PAM Jaya was able to serve less than half of Jakarta's residents and received many complaints from its customers about unreliable water service and low quality of water. PAM Jaya's other challenges included leakage, water quality, and water resources.

Since the early 1960s and the beginning of the 1970s the expansion of Jakarta water supply was funded by loan from the central government. PAM Jaya must pay back its debt to the Ministry of Finance (JWRB, 2010). As Indonesia was in the beginning process of decentralization, budgets for regional development came from the Minister of Home Affairs; this included funding for PAM Jaya's operational budget. In 1988, the national government established the Regional Development Account to unify the process of lending and repayment for regional level institutions, all managed under the Ministry of Finance. PAM Jaya was included in this category. The central government of Indonesia decided to release PAM Jaya's operational budget out of the Daerah Khusus Ibukota Jakarta Raya or the Capital Special Province Greater Jakarta[4]; and it was responsible for its own investment and operation. President Suharto used this situation to strengthen his order for the concession contract, while this situation complicated the concession contract since PAM Jaya still had to pay for its debt to the Ministry of Finance and Ministry of Home Affairs as a result of the implementation of the Regional Development Account. PAM Jaya's debt from prior to the public - private partnership has influenced the progress of the concession contract even until the present.

[4] Source: Interview with PAM Jaya

To accommodate the demand for water by the un-served population, in 1990, PAM Jaya permitted all households with metered connections to resell water. PAM Jaya also built public taps or hydrants where the vendors could collect water to sell (Lovei, Whittington, 1993, p. 1966). PAM Jaya invested in increasing the number of hydrants to reduce the distance between neighborhood taps, reduce transportation costs, and increase competition among vendors (Crane, 2004, p. 71).

In 1995, President Suharto, through the Ministry of Public Works, ordered PAM Jaya to open its door to collaborate with appointed joint foreign and domestic private companies, Thames Water Overseas, partnered with PT. Kekar Pola Airindo, and Suez Lyonnaise des Eaux, partnered with PT. Garuda Dipta Semesta; the two local partners companies were owned by Sigit Haryoyudanto, Suharto's son and Anthony Salim, Suharto's close business partner. These private companies were granted Built Operate Transfer (BOT) concession contracts for 25 years, which would take effect in January 1998.

In May 1998, Suharto resigned from office following civil unrest and the deaths of three students of Trisakti Christian University in a public demonstration over economic recessions. The concession contract was abandoned by the private partners whose staff and families left Jakarta for safety reasons. By the end of 1998, with the pressure from the ambassador of France and the United Kingdom, the contract was put on the table again. This time, the negotiation process among Thames, Suez, PAM Jaya, and the regional government of Jakarta took more than two years to finish, resulting in a Restated Cooperation Agreement (RCA) that was signed in October 2001. The goal of the renegotiated contract was to improve service coverage to 70 percent by 2002; however, the content of the contract had low penalties for the private sector's failure, unclear investment targets, and unclear dispute resolution processes.

Chapter Four: Jakarta Water Supply Public - Private Partnership

4.1. Chronology

In Indonesia, local governments manage their own SoEs for public services, including PAM Jaya and other Perusahaan Daerah Air Minum (PDAMs). In early 1995, the water supply in Jakarta became a great concern of President Suharto. He wanted to increase the capacity of DKI Jakarta as an international city, especially in water supply. At that time the City was having a hard time accommodating the requests of international companies to open branches and plants in Jakarta because of a lack of water. One of the effects of the national budget reform in 1998 was that the management of the Regional Development Account (RDA) changed from the Ministry of Home Affairs to the Ministry of Finance. Since then, PAM Jaya was not included in the DKI Jakarta Province budget and was expected to achieve full cost recovery. In 1989, the water sector was opened to direct foreign investment.

President Suharto ordered the Minister of Public Works, Radinal Mochtar, to invite DKI Jakarta's governor, Suryadi Sudirja, the DKI Jakarta Vice Governor, Tubagus Rais, with the director of PAM Jaya, Ir. Samsul Romli, to a closed-door meeting. In the meeting room, Sigit Haryoyudanto and Anthony Salim were already waiting. The meeting was actually a briefing that PAM Jaya would collaborate with two foreign companies, Thames Water International on the east side of Ciliwung River, and Suez Lyonnaise des Eaux on the west side of Ciliwung River.

The selection of private partners was done without open bidding, but through private conversations between President Suharto and the ambassadors of the United Kingdom and France, who supported the international companies Thames Water (United Kingdom) and Suez Lyonnaise des Eaux (France). A negotiation process was started soon after, during which the Secretary General of Cipta Karya (part of the Department of Public Works) led the negotiation team that included PAM Jaya. The World Bank did not get directly involved until later in the process when they hired consultants to counsel the Government of Indonesia[5].

[5] Source: Interviews with former Thames Water officials and the Jakarta Water Regulatory Body

The negotiation ended with the concession contract that was signed in June 1997, with the effective date of January 1, 1998. The Ministry of Finance was inclined to sign the agreement. The Secretary of the Development Control from the president administration pushed the Ministry of Finance to sign the agreement by mid January 1998. The effective date became February 1, 1998. Soon after, in May 1998, President Suharto resigned from office. After the political situation returned to normal, the ambassadors of the United Kingdom and France made another push to move forward with the contract; meanwhile, PAM Jaya was still managing the entire system.

Graphic 2. Map of DKI Jakarta concession contract

Source: Jakarta Water Regulatory Body, 2010

A new negotiation process to evaluate the agreement was started later in 1998 and ended with the Restated Cooperated Agreement in October 2001. The negotiation was very slow, because the interest to collaborate with private partners had not come from PAM Jaya but from the departed President Suharto. With his administration collapsed, there was no political support for the collaboration to move forward. The three-year negotiation process resulted in the RCA, which according to PAM Jaya was a more balanced contract compared to the previous concession contract of 1998. Several items that changed under the Restated

Cooperation Agreement were:

(1) Raw water supply: PAM Jaya no longer acted as the water supplier to the private companies, which would require PAM Jaya to pay the difference in raw water cost if PAM Jaya could not meet the requirements. Instead, the private companies dealt directly with the state owned companies that provided water such as Perum Jasa Tirta, PDAM Tangerang and PDAM Bogor[6].

(2) Procurement: PAM Jaya no longer was responsible to close deep wells widely used in Jakarta among hotels and factories; instead, private partners would close the wells in collaborations with the Ministry of Mine and Energy.

(3) Employees: Instead of being transferred to the private firms while remain working under PAM Jaya, PAM Jaya employees will be the private partners' full employees, where a panel to mediate labor dispute would be set up[7].

(4) Supervision: A new independent regulatory body, along with PAM Jaya, could audit the private partners, where there would be sanctions and penalties if the private partners could not meet the concession targets. In the previous contract, PAM Jaya could not retrieve data from private partners, and no independent auditors that could audit the private partners.

(5) Escrow account: The private partners could retrieve money only with PAM Jaya's approval and the priority was to pay PAM Jaya's debts. Previously, the private partners could retrieve money from the joint account without PAM Jaya's approval. Priority of the escrow account usage was to for the private partners.

(6) Water charge: A new tariff was to be recommended by both PAM Jaya and the private partners to the new Regulatory Body. The Regulatory Body would deal with the parliament in increasing the new water charge. The previous short fall would be audited by the state BPKP auditing company and the private firms would pay. In the previous contract, water charges increase automatically every six months with approval from the Jakarta parliaments and if there was a delay, the short fall would be paid by PAM Jaya, with no early warning system.

(7) Dispute: There was a four-level mechanism: seeking compromise, mediating by the Regulatory Body, mediating by experts, and court settlements both in Jakarta and

[6] PDAM Tangerang and PDAM Bogor were the other local water providers from surrounding suburbs where Jakarta obtained raw water.

[7] This issue was still in dispute until 2003, and until recently the issue had been resolved. More detail information will be available under the "progress" section on Chapter 4.

Singapore. The previous contract only indicated a three-level mechanism: seeking compromise, mediating by experts, and the international court in Singapore.

(8) Regulatory body: The Regulatory Body and PAM Jaya would supervise the contract.

Source: Harsono, 2004, p. 16-17

The private partners spent much energy in accommodating the request to balance the risk allocations. Overall, the new concession contract was seen to be reasonable and could be well executed if followed according to plan. Under the contract, a new regulatory body, Jakarta Water Regulatory Body (JWRB), was formed with the task of regulating the tariff and water charges. The main responsibilities of the regulatory body were to mediate and to monitor the private companies.

4.2. Contract provisions

4.2.1. Tariff and internal rate of return

According to the concession contract, the tariff setting must take into consideration its social function in order to serve the lower income population at an affordable tariff, which was set by the Governor of Jakarta with the approval of local parliament (JWRB, 2010). The tariff is set by rules and regulations that determine the water bills for customers. In Jakarta, there are five tiers of tariff that were set based on the economic condition of the household and the type of establishment as seen in Table 2.

Table 2. Drinking Water Supply Tariff (in 2003)

Group	**Less than 10 cubic m^3 (IDR*)**	**Between 10-20 m^3 (IDR)**	**More than 20 m^3 (IDR)**
Group 1	500	500	500
Group 2	500	500	900
Group 3-A	2,250	3,000	3,500
Group 3-B	3,250	4000	5,000
Group 4-A	4,750	5,750	6,750
Group 4-B	9,100	9,100	9,100
Group 5 Special	11,000	11,000	11,000

* Note: US $1 = 9,004 IDR

Group 1 includes houses of worships, orphanages, social dormitories, public hydrants

Group 2 includes public hospitals, poor households, water trucks

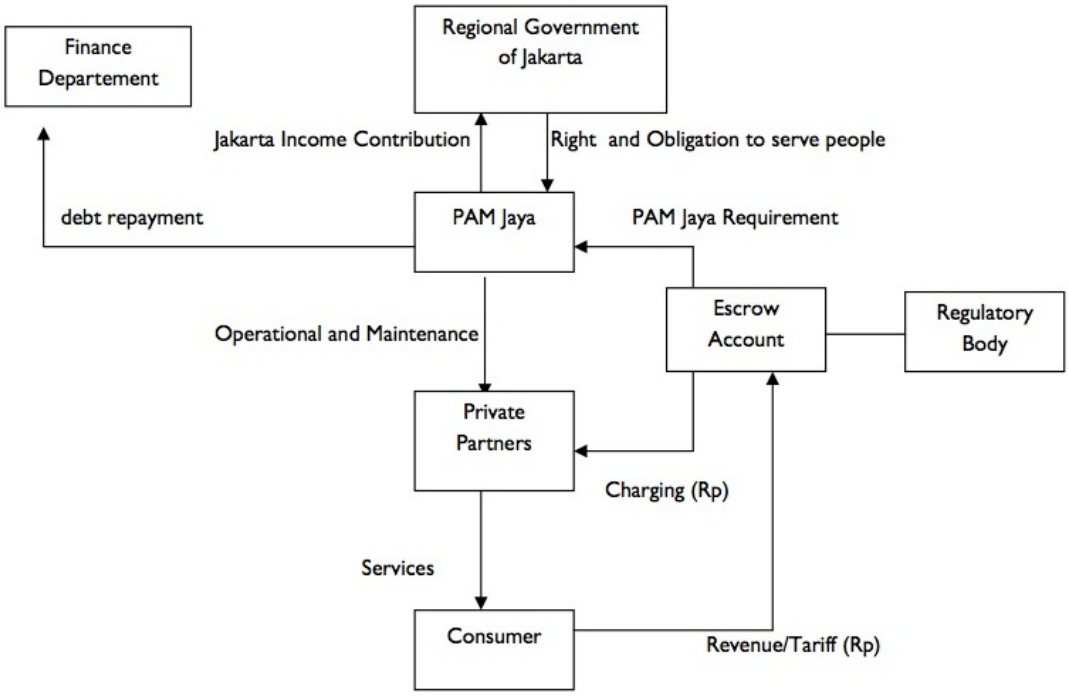
Group 3-A includes ordinary households
Group 3-B includes middle households, kiosk, small workshops, nonprofit organization, home industries
Group 4-A includes upscale households, embassies, government offices, business companies, military facilities, restaurants, service offices, medical facilities, privately-owned hospitals, small industries, non- star hotels
Group 4-B includes star-hotels, motel, nightclub, café, banks, service stations, high-rise buildings, condominiums, ice industries, chemical industries, warehouses, textile, entertainment centers, factories
Group 5 Special – Tanjung Priok seaport
Source: Harsono, 2003, p. 22

Based on the concession contract, the revenue of the project is put into an escrow account that is shared between PAM Jaya and the private partners. The first priority of the escrow account was to pay the debt obligation of PAM Jaya to the Ministry of Finance and the contribution to Provincial Government of DKI Jakarta. With the left over revenue in the escrow account then was used to pay for the concessionaires' expenses and the operating expenses of PAM Jaya.

Payments paid to the concessionaires are based on a flat rate of water charge cost per cubic meter multiplied by the volume of water billed and collected. These water charges are adjusted every semester, using an indexation formula that is influenced by the exchange rates due to the use of a foreign loan, consumer price indices, cost of labor, chemicals, electricity, metals, raw and bulk treated water purchased (JWRB, 2010). The water charges are re-based every five years. Regardless of the type of customer groups, a payment made to the private partners is the same, based on the price of water charged set by the agreement of PAM Jaya and the private partners.

The revenue sharing diagram below describes the flow of payment and revenue sharing in this water supply system. Tariff payments go to the escrow account, and from this escrow account private concessionaires collect the amount of payment based on the water billed (per m^3).

Graphic 3. Revenue Sharing Mechanism



Source: Santono, 2003

The internal rate of return is set based on the risk of the project, rate of return on a risk-free investment, asset, return on the market as a whole, market risk premium, and country risk. If the project is more risky, the rate of return will be higher. The current internal rate of return is 22 %, which according to Jensen (2005) could be made as low as 14.73 percent and still would have provided profits to the private partners. The determination of the internal rate of return is based on the methodology based on the Capital Asset Pricing

Model (CAPM) (Jensen, 2005, p. 41). According to the CAPM, the return on the project should be equal to the return that the company can earn on a risk-free investment plus a premium reflecting non-diversifiable risk. The Indonesian's Rupiah exchange rate against the US dollar was US $1 to IDR 2,500 in 1997; after 1998, the currency devaluated by almost 80% to US $1 to IDR 10,000. Although the internal rate of return was also calculated based on the projection of operating costs, capital expenditures and financing costs, this rate of return was not addressed in the RCA of 2001 and remained in the concession contract. Jensen (2005) calculated Jakarta's concession internal rate of return based on CAPM with the result of 14.73 percent could have made the contract look attractive to private sector (p. 41).

4.2.2. Targets and standards

The main target was the volume of water billed; if the volume of water billed fell below 70 percent of the target set in the contract, PAM Jaya could trigger the termination of the contract. While failure to meet this target would incur penalties, the process for penalties was vaguely addressed in the contract.

Table 3: Technical targets for concession contract

Items	Year 5	Year 10	Year 20	Year 25
Volume of Water Sold (million m^3)	342	398	419	428
Non-Revenue Water lost (%)	35	25	20	20
Service Coverage (%)	70	75	98	100
Population Served (million)	6.72	7.57	10.83	11.43
Water Quality	Clean water at the end of Year 9		Potable water starting Year 10	
Pressure	7.5 m in the whole area, except Pluit at the end of Year 5	7.5 m in the whole area, by the end of Year 10	7.5 m	7.5 m

Source: Jakarta Water Regulatory Body, 2010

The other requirements for the targets were:

1. Volume of water produced
2. Non-revenue water
3. Number of new connections
4. Service coverage
5. Quality of water supplied
6. Water pressure
7. Response time to customer (complaints, request for connections, etc.)

The investment schedule was not part of the target set in the contract, but was negotiated every five years.

4.2.3. Legal aspect

Private sector involvement in public services is a controversial phenomenon in Indonesia. It is against the Indonesia's Constitution of 1945 that stated: land, water and all of embedded

resources are controlled by the State and are used for the best interest of the people. In 1996, an Instruction of Minister of Home Affairs No.21 set up procedures for the private sector to invest in water. To legalize the current private sector involvement in the water sector, the Indonesian Parliament passed Water Resources Law in February 2004 (Hall, 2004, p. 17); however, this new law was six years after the first concession contract in 1998. This new water law is part of the precondition of a USD 300 million loan from the World Bank known as Water Resources Sector Adjustment Loan (WATSAL).

4.2.4. Dispute resolution

The Jakarta Water Regulatory Body (JWRB) was established to address disputes between PAM Jaya and the private partners. If the parties are not able to find a compromise through discussion, they may call on the regulatory body to act as a mediator. JWRB has limited resources available to play its role as a mediator and limited authority since it was established under the concession contract. The legal foundation of JWRB is a governor decree, but JWRB has no authority to impose any penalties or rewards on the parties. There was no national law concerning the water sector that could provide a legal point of reference in dispute resolutions. Possible causes of disagreement between contracted parties are: (1) services standards achievement; (2) imposition of penalties and sanctions if targets are not met; (3) adjustment of tariff and water charge and periodic rate rebasing; (4) technical targets; (5) review of financial and operating plans; (6) expenditures in operation; or (7) calculations of debt of PAM Jaya to its private partners (Jensen, 2005, p.19).

If any dispute cannot be resolved within 60 days, it will proceed to arbitration, which takes place under international rules (UNCITRAL United Nation Commission on International

Trade Law) with an arbitrator appointed by the chairman of the Singapore International Arbitration Centre. Until today, there has been no dispute taken to arbitration (Jensen, 2005, p. 21).

4.2.5. Periodic rate review or rate rebasing

PAM Jaya has outstanding debt to the Ministry of Finance prior to the concession contract. Some of the water tariff revenue collected was used to pay this debt instead of being used to pay the water billed to the private concessionaires. This condition had caused PAM Jaya to owe more than US $100 million to the private concessionaires in 2004 and has influenced the flow of investment scheduled to be made by the private sector. Shortfalls in investments translated into unmet targets in network expansions and new water plants developments. The Jakarta Government set up an Independent Combined Expert team that included JWRB to exercise periodic rate reviews (rate rebasing) and to establish a new basis for future tariffs (Lanti, 2005, p. 253). A long process of negotiation could not reach any agreement until 2005, when the private partners and PAM Jaya accepted the agreement mediated by JWRB (Lanti, 2005, p. 253).

An on-going issue that includes periodic tariff increases has continued since 2005. JWRB faces challenges to the responsibilities of customers and the relationship with private partners and PAM Jaya, since JWRB was created under the concession contract.

4.3. Transition process

Employee management became an issue in the beginning of the transition process from PAM Jaya to private partners in 2001-2003. Based on the concession contract, PAM Jaya transferred some of its employees to the private partners. The private partners resisted

since they planned to reduce the number of employees to increase efficiency; however, an agreement was made that the private partners would agree to take some of PAM Jaya's employees. PAM Jaya employees who were transferred to the private partners would remain as PAM Jaya employees, but the private partners were obligated to their payrolls and benefits. The resistance from private partners showed by the way they managed PAM Jaya's transferred employees. The private partners found that it was difficult to manage employees from PAM Jaya since there were no legal procedures available to manage and to discipline them in case of bad work performances. This lack of trust from TPJ and Palyja pushed them to create another level of workers who were employed by TPJ and Palyja. These tiers of employees were called first tier employees, while the employees from PAM Jaya would remain second tiers of employees. The differentiation of the "tier" relates to transparency information from the upper level management, benefits, payrolls and responsibilities. The new staff additions almost doubled the operating costs of both private partners. These transferred employees' incomes were cut 30% lower than their counterparts who continued to work in PAM Jaya (Harsono, 2003, p. 15).

Early in the transition period in 2001, PAM Jaya and two private concessionaires faced lawsuits from its 1,000 employees who were in jeopardy of losing their jobs. Because of the difficulty of private partners to manage PAM Jaya's transferred employees, in some cases workers were "returned" to PAM Jaya for a "re-education program" (Harsono, 2003, p. 15).

4.4. Progress

Table 4. Table of progress 1995, 2004, and 2009

	1995	2004	2009
Population	9,116,000	9,695,600	9,900,000
Connections	354,952	610,806	780,000
Service Coverage	27%	51%	62%
Staff	2,139	3,256	
Annual Operation and Management Cost:	US $24.6 milion	US $89.6 million	US $153.8 million
Annual Revenue:	n/a	US $67 million	US $40 million
Annual capital expenditure:	US $16.8 million	US $78.6 million	US $129.3 million
Production and distribution			
Ground water:	Nil	Nil	Nil
Surface water	100%	100%	100%
Tariff			
Average tariff	US $0.611/$m^3$	US $0.285/$m^3$	US $0.798/$m^3$
Lowest tariff		US $0.055/$m^3$	US $0.116/$m^3$
Efficiency indicators:			
Non-revenue water	53%	51%	In the west side PAM Lyonnaise Jaya NRW 42% in the east side, Aetra is 45-46% of NRW at the end of 2009

Source: Asian Development Bank, 1997, 2004; PAM Jaya, 2010; Jakarta Water Regulatory Body, 2010

4.4.1. The effect of public - private partnership to the small scale water providers

In the early concession contracts, the private partners implemented water hydrants, where water vendors would buy water at the price of US $0.01 per m^3 and sell them at the price of US $0.07 per m^3. The concentration of vendors per public tap was 5-6 vendors, while bottled water sold at the price US $0.24 per 5-gallon bottle (Asian Development Bank, 2004). In 2009, water vendors bought water at the price of USD 0.39 per m^3 and sold them between US $5.55 – 6.66 per m^3.

In early 2005, private partners developed water kiosks to slowly replace the water vendors because of the high price they offered to the community. The private partner would select the location of water kiosks, mostly located in front of the house of a respected kampung leader, who would manage the kiosk. The price of water would be discussed collectively by

the community, where one *jerigen*[8] would cost about IDR 400 to 500 (compared with IDR 2,000 sold by water vendors). This water kiosks program received positive feedback from the community although water vendors protested since they now have to compete with lower prices of water in certain kampung with water kiosks[9].

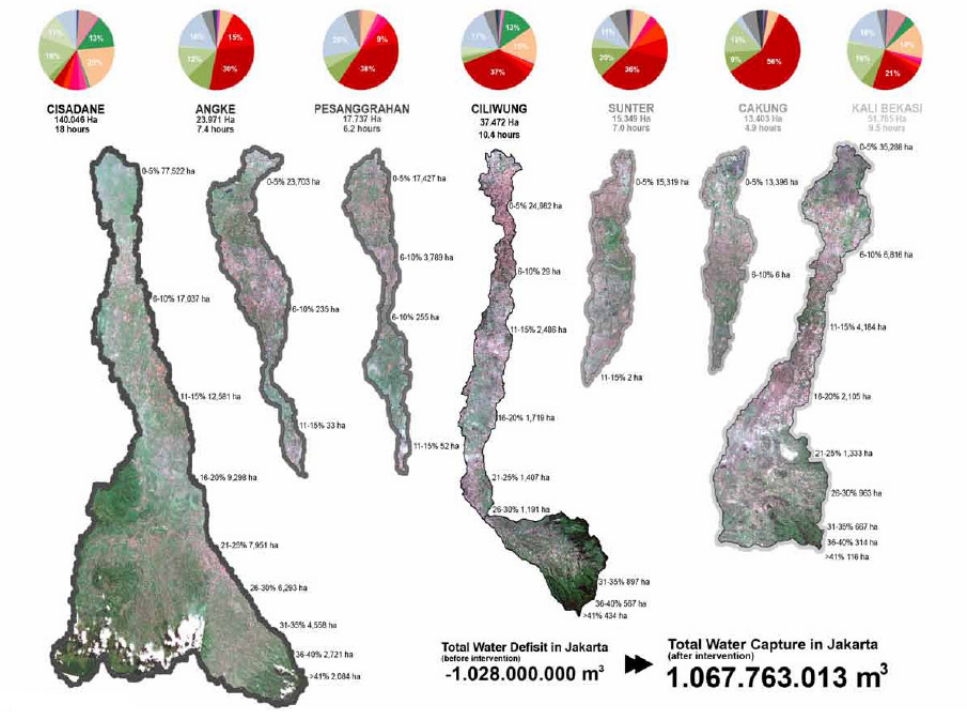
4.4.2. Raw water sources

Raw water source is a critical issue for Jakarta. The availability of raw water influenced the decision to invest in new water plants, which later determined the capacity to expand the piped water network. Water production is very much influenced by the availability and the quality of raw water. When raw water is highly polluted, rigorous water treatment is needed to produce decent quality drinking water. Often times, this condition was worsened by the fluctuation of mud water in rainy season; the water supply needed to be cut off when turbidity was high because of heavy rain, which generated complaints from customers.

Jakarta's raw water sources originated from Perum Jasa Tirta II, IPA Cisadane PDAM Tangerang, Tarum Kanal Barat, Ciliwung River, Krukut River, Citarum River, and Pesanggrahan River. The raw water supply from Citarum River went through several dams, and distributed through an open canal that flows through industrial settlement areas where pollution level is very high (Tutuko, 2001).

[8] 1 jerigen = 5 litters or 1.32 gallons
[9] Source: Interview with PAM Jaya

Graphic 4. Water sources of Jakarta



Source: Asian Development Bank, 2004

The first five years of the contract after RCA (2001 - 2004), the private partners were not able to achieve the targets such as reducing non-revenue water and volume water sold. Targets achieved were service coverage ratio, respond to customers, and water pressure. For the second five years, the private partners performed better; in 2009, there were 780,000 customers that covered 62% of Jakarta[10].

According to PAM Jaya, this improved quality and customer service were supported by studies conducted by several organizations to measure the performance of private partners: (1) Customer research by TNC, an international think tank: 79% customers satisfied, 5% not satisfied. International standard of satisfaction is 49% while Jakarta is 48%; (2)

[10] Source: Interview with PAM Jaya.

Puskaptis (Pusat Penelitian Kebijaksanaan Strategis – Center of Research for Policy and Strategies); and (3) Litbang Kompas research: December 29, 2009 – rate of satisfaction 3.8 out of 7 points, ahead of other public services such as electricity and roads.

4.4.3. Change of ownership

In 2006, both Thames and Palyja started to sell their shares to national and international investors (Setyawan, 2006). At that time, a German utility company purchased Thames Water International. Thames Water International withdrew from international water business to focus on electricity. Thames PAM Jaya was bought by P.T. Aetra Air Jakarta (Aetra Jakarta Water) in April 2008 (Setyawan, 2006).

4.4.4. Tariff setting

The tariff setting has been an on-going issue in the relationship between PAM Jaya and the private partners. The Governor of Jakarta set the tariff through JWRB, which has to negotiate the tariff between PAM Jaya and private partners. The devaluation of 2001 started an on-going conflict over tariff levels. A periodic rate review process was set between 2003 - 2005 that created a system on how the tariff would be set up in the future.

In order to catch up with inflation, tariffs were adjusted three times: April 2001 by 35%, April 2003 for another 40%, and January 2004 by 30% (Lanti, 2005). In early 2004 it was determined that there would be a regular increase of tariff every six months until 2007 without the previously required approval by the Jakarta regional parliament.

Table 5. Tariff increase in 2007

Tariff Group	Types of Customers			
		0-10 m^3 IDR	11-20 m^3 IDR	> 20 m^3 IDR
1	Social services house, orphanage, places of religious worship, hydrants and public tap	1,050	1,050	1,050
2	State hospitals, very poor households, very poor apartments	1,059	1,050	1,575
3A	Poor household dwelling, poor apartments, water stations and water tanks	3,550	4,700	5,500
3B	Middle income household dwelling, middle income apartment dwelling, small establishments/restaurants, small businesses in households, non-commercial private organization, small business	4,800	6,000	7,450
4A	Middle - upper income households, embassy, government institutions, foreign institution, commercial private organization, educational institution, military offices	6,825	8,150	9,800
4B	Hotels/motel/cottage, bank. Service Station, high rise buildings, apartment, factories, other industries and establishments	12,550	12,550	12,650
5	Harbor/port	14,650	14,650	14,650

Source: PAM Jaya, 2010

The tariff issue is a sensitive political issue for the Governor of Jakarta. The Governor has been reluctant to increase tariffs based on the schedule set in the concession agreement. The customers were unwilling to pay for tariff increases because of the unreliable water supply. Although the quality of water has increased, in some areas, water supply has been unreliable because of several factors that affected raw water supply in the water plant such as weather. Often times, PAM Jaya had to shut down the water supply in certain areas because of high turbidity in the water plants caused by heavy rain.

Cross-subsidy in the tariff structure created an imbalance revenue for PAM Jaya and the private partners. In order to maintain affordability of the network to the low-income residents, the tariff was set in five groups, where the low-income residents pay about one thirteenth of the real operating cost of water per meter cubed (group I: IDR 1,050, while group V: IDR 14,500) so that every low-income customer connected is a loss making.

4.4.5. Connection fees

According to KruHa (People's Coalition for the Right to Water), connection fees are approximately IDR 10,000,000. The private partners established lump sum payments for connection fees that helped future customers to connect to the piped water network. However, connection fees are more than a month's minimum wage, while many poor households have irregular incomes. Connection fees are also more expensive the further the dwelling is from the piped network. Poor households are more likely to be in areas without networks or in areas of lower network density.

Table 6. New Connection Costs

Group	Connection Cost
1	IDR 627,500 (US $69.65)
2	IDR 627,500 (US $69.65)
3A	IDR 961,500 (US $129.48)
3B	IDR 961,500 (US $106.72)
4A	IDR 1,166,500 (US $129.48)
4B	IDR 1,166,500 (US $129.48)
5	IDR 1,166,500 (US $129.48)

Source: Palyja and Aetra, 2010

4.4.6. Investments

Based on the RCA, the private partners would provide investments 30% of equity and 70% from lending agencies. The shareholders from the local and international partners would provide equity to carry out the project.

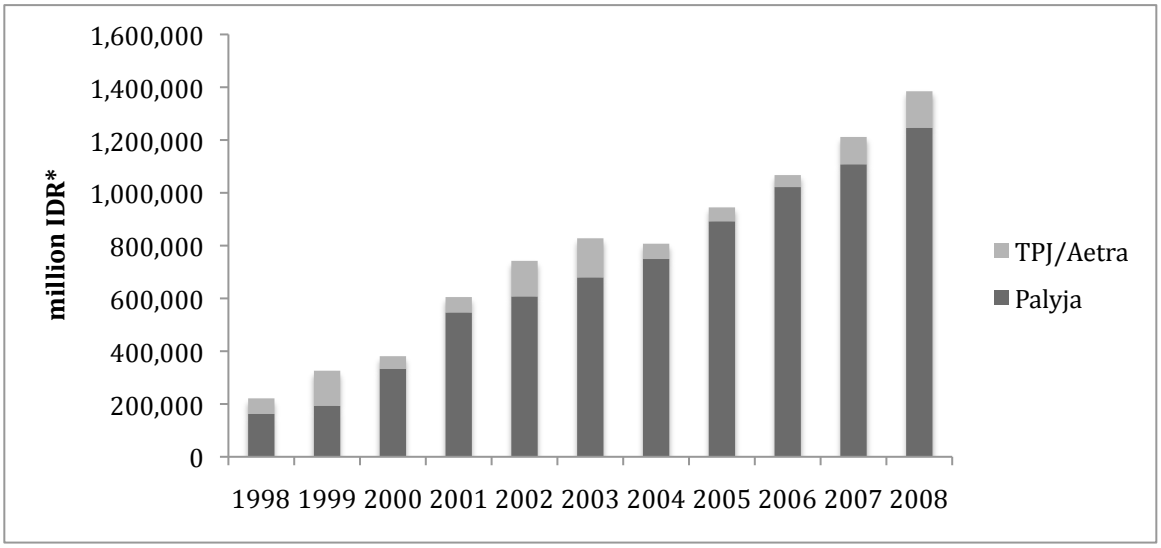
Over the past ten years, there was no clear target in network investments. Graphic 5 shows the total investments made by private partners, Palyja and Aetra/TPJ from 1998 to 2008. We can see that there is a huge gap between the two partners in terms of investments and spending in network expansions.

In 2006, the World Bank introduced the Output-based Scheme to aid with investment in drinking water supply that helped the private partners create significant progress in the investment schedule. With an Output-based Scheme, an investment would be refunded if the project achieved the specified target. The Output-based program was implemented from 2005 – 2009, where about 11,000 new connections were established in the Palyja area. All of these connections were categorized in tariff group I, where connection fees were about USD 69.65 and the customers paid about USD 0.116 (IDR 1,050) per m^3 of water use[11].

There is a distinctive gap between Palyja and TPJ/Aetra's total investments since 1998 – 2008, even though the two shares almost equal areas and populations of Jakarta (see Graphic 5). Palyja shows a better performance overall compare to TPJ/Aetra including the achievements of targets such as the reduce percentage of non-revenue water loss. However, PAM Jaya/JWRB still has no legible reason to terminate the contract since the TPJ/Aetra still meets the 70% expansion targets requirements of the RCA 2001 (Graphic 6).

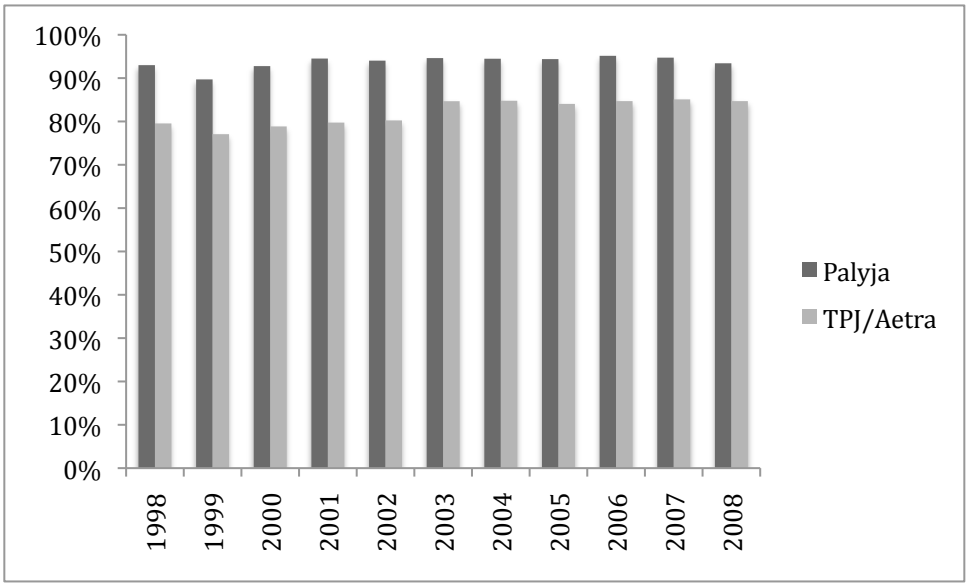
[11] Source: Interview with the World Bank Washington, DC

Graphic 5. Total investments for both Palyja and TPJ/Aetra



Source: Jakarta Water Regulatory Body, 2010
**Note: numbers are not adjusted to inflation (US $1 = IDR 9,004)*

Graphic 6. Percentage of investments used for network expansion



Source: Jakarta Water Regulatory Body, 2010

4.4.7. Non-revenue water loss

Non-revenue water loss in 1998 was 51% and the rate was reduced to 42% for Palyja area, and to 45% for Aetra area at the end of 2009. The real non-revenue water target is under 40% while the ideal international standard is 30%. Since 2007, PAM Jaya and private partners have developed several programs to monitor water consumed and water delivered to reduce non-revenue water loss[12].

Another challenge in reducing non-revenue water loss is people's behavior of stealing water. Often times, employees assisted them. PAM Jaya has been working with local police departments to discipline employees in violation of work ethic or allegedly assisting people with stealing water from the connections. Instead of paying the full amount of connection fees, the customer would pay a certain agreed amount of money to the employee and the customer avoided the monthly payment to PAM Jaya. Water theft and corruption has become a major issue since the beginning of the contract (perhaps even before the concession contract). An official of Thames Water in the early stage of the concession confirmed this information; however, PAM Jaya has been taking these issues seriously and began to prosecute employees who allegedly assisted people to steal water[13].

[12] Source: Interview with PAM Jaya

[13] Source: Interview with PAM Jaya & Thames PAM Jaya official

Chapter 5: Conceptual approach to handing conflict

The history of the public - private partnership in Jakarta has been full with conflict over the years. Private partners have been criticized for not meeting the targets of the contracts such as network expansion, increasing water quality, implementing higher tariffs and many other issues mentioned in previous chapters. Despite these conditions, however, the contract is still in place, and the private partners are still operating as the manager of the water supply in Jakarta.

After analyzing the condition and progress of the drinking water provision in Jakarta, it is clear that the issues lie in the conflicts among the organizations. This chapter aimes to analyze these conflicts using the four-quadrant analysis and seven elements analysis tool to propose recommendations that can assist in increasing efficiency and effectiveness of the entire system in the next twelve years of the concession contract.

5.1. Parties

Understanding interests is key in handling conflict. Every party has its own perspectives, based on its worldviews, motivations, and positions defined. It is important to know the underlying motives and worldviews in order to best meeting their needs.

5.1.1. PAM Jaya

PAM Jaya is interested in: (1) maximizing status/employment/budget/scope of responsibility; (2) reducing financial debt to the Ministry of Finance and to the concessionaires; and (3) minimizing chances of intervention by the local or central

governments.

PAM Jaya has aimed to achieve the Millennium Development Goals target of 90% drinking water supply coverage by 2015. However, with only 62% coverage in 2009, this target could easily be a big challenge. Adding 28% coverage in a five-year period is unheard of, even with the public-private partnerships. Other cities in Indonesia, such as Surabaya and Palembang, have achieved 90% coverage. PAM Jaya tried to achieve this goal by pushing efficiency and effectiveness of the concessionaires' day-to-day operating expenses, using new technology to control non-revenue water loss, and increasing efficiency of the escrow account to control its debt to the concessionaires.

5.1.2. Concessionaires/private partners: TPJ/Aetra and Palyja

The concessionaires/private partners are interested in: (1) maximizing returns over the life of the contract; and (2) complying with the firm's international strategy. TPJ identified institutional efficiency as one of the main challenges of progress of the public-private partnership. Since the decision to bring in the private sector did not come from PAM Jaya but from President Suharto, in the beginning there were strong resistances from PAM Jaya to maintain the status quo.

5.1.3. Jakarta Water Regulatory Body (JWRB)

The JWRB was established under the concession contract, Restated Cooperation Agreement in October 2001 as a result of three years of negotiations with PAM Jaya, Thames Water International, and Suez Lyonnaise des Eaux. However, JWRB reports to the Governor of DKI Jakarta. This regulatory body mediates and negotiates any disputes that arose under the contract between PAM Jaya and its private partners. JWRB has almost no authority to

mediate conflicts among the partners. Since the budget source of JWRB comes from the tariff revenue of PAM Jaya, JWRB has limited human resource power in terms of officials to hire. Currently JWRB employed a number of officials of part-time researchers who have limited time to devote to the organization. Because of its limited budget, JWRB has been unable to pursue sanctions for the failure of private partners to achieve targets of the contract through legal actions. The regulatory body is interested in defending the customers' interest for better quality of water supply service as well as negotiating between private partners and PAM Jaya.

5.1.4. Customers representations (YLKI and NGOs, DKI Jakarta Province Legislative Body)

YLKI (Yayasan Lembaga Konsumen Indonesia or Indonesian Foundation for Customers Protection) along with other NGOs interested in the water supply provision has been active in voicing the concerns of customers regarding the services of PAM Jaya.

YLKI and NGOs are interested in customers receiving water supply services that meet the quality and quantity they need, while keeping low prices of the service, especially for the low-income residents of Jakarta.

5.1.5. Jakarta Governor Administration

The Governor is interested in: (1) maximizing political support domestically; (2) minimizing chances of intervention by central government; and (3) maintaining international reputation. Tariff is a very sensitive issue in Jakarta as raising the tariff would potentially create political unrest and riots.

5.1.6. Ministry of Public Works, DKI Jakarta division

The Ministry of Public Works manages several institutions in the water sector, not only drinking water. The Ministry faces challenges in increasing capacity in management of the existing water sector system. The Ministry of Public Works holds a significant role in the management of the raw water sector as it coordinates this effort with the Ministry of Environment

5.1.7. Ministry of Finance

The Ministry of Finance is interested in having a significant and steady payment from PAM Jaya for its debt for the investment in drinking water sector since the reformation of the budget allocation in 1998.

5.1.8. Koalisi Rakyat untuk Hak atas Air/People's Coalition for the Right to Water (KruHa)

KruHa was founded in 2000 to express concerns over the use of USD $300 million of the Government of Indonesia's loan from the World Bank. Currently, KruHa has 30 member organizations in Central Java, West Java, East Java, and Riau Province on Sumatera island. KruHa viewed that the Indonesian government could put more resources towards developing water supply networks, especially in Jakarta and other urban areas. They are opposed to the public-private participation since this partnership is based on the concept of water as an economic good, and the purpose of making profit through developing water supply network is the opposite of providing universal water supply for all the residents of Jakarta, especially the poor. KruHa mentioned that their argument is supported with the ratification of The United Nations Economic and Social Council (ECOSOC) with Government Regulation No.11, 2005 that the state recognizes water as a human right. Public-private participation such as the concession of Jakarta drinking water supply is a demonstration of

neglecting the state of its citizens. According to KruHa, the state should allocate more of the budget in the development of a water supply network, knowing that national budget is growing every year.

Within the investment argument, KruHa also challenged the fact that the private partners have obtained funding through selling their assets to domestic and foreign investors; PAM Jaya could do the same with its assets. KruHa is concerned with the large amount of debt that the private companies have and the fact that residents have been burdened by these debts by paying higher tariff.

Other non-governmental organizations such as Yayasan Lembaga Konsumen Indonesia/Indonesian Consumers Organization (YLKI), Urban Poor Consortium, Komunitas Pelanggan Air / Community of Water Customers, Assosiasi Kontraktor Indonesia (Indonesian Contractors Association) challenged the tariff increase of 9.49% for customers group 1 (orphanages), group 2 (low-income households, from 550 IDR/m^3 to 900 IDR/m^3) in July 2005. KruHa is also active in conducting research and releases reports on the progress of public-private partnership.

5.2. Four-Quadrant Analysis for Problem Solving

Four-quadrant analysis is a tool that encourages a systematic problem-solving process that helps to understand the conflict situation (Fisher, 1994, p.69). The first quadrant, "What is wrong?", defines the symptoms and the preferred situation as well as the gaps between them. The second quadrant defines the "general diagnoses" of the situation through developing and understanding why a problem has not been resolved and also possible causes of the gap between the preferred situation and current stage of problems. The third

quadrant is the "general approaches" and contains possible strategies to overcome identified diagnoses. The fourth quadrant is "action ideas" that describes possible solutions through actions by the parties involved.

5.3. Partisan perceptions

Every party's perception of the conflict has to be defined to understand the conflict. Each party's perspective is different based on its position in the conflict, its needs and its situation.

5.4. Four-quadrant analysis: applications to Jakarta water supply provision

5.4.1. Quadrant I: the problem

Disputes regarding rate rebasing and tariff constantly disrupt the effectiveness of the concessionaires and PAM Jaya as the drinking water supply provider. Jakarta Water Regulatory Body cannot fulfill its role to mediate, negotiate, and impose sanctions or penalties to concessionaires when the set targets are not achieved. PAM Jaya also has an unclear role in the contract; they are supposed to be the asset manager of the system, while often times, they have taken over the JWRB role of monitoring the performance of the concessionaires.

The internal rate of return was considered to be higher than what the private partners needed to make a profit, while the renegotiation process in 2001 did not change this situation. This high Internal Rate of Return From the concession has created an imbalanced budget within PAM Jaya as well as unmet payments to concessionaires that delayed targeted investment and expansion plans.

The concession contract has undergone several amendments, but the system to regulate rate rebasing negotiation, tariff increase and tariff level were still based on the requests of the concession parties. Meanwhile, many problems still existed such as: (1) high, non-revenue water loss has contributed to unmet targets of new connections, as well as the quantity and quality of the distributed drinking water supply; and (2) the lack of quality raw water supply has contributed to the unreliable service and the flow of drinking water supply distributed to customers. These resulted in the low quality of water and unreliable services; The Indonesian Consumer Foundation (YLKI) receives 70 complaints from residents about tap water each month (Wintarti, 2009), while the un-served population continues to pay the high price of alternative water supply from vendors, as well as the cost of using polluted and dangerous groundwater.

Preferred Situation:

The Governor of Jakarta needs to establish a new regulatory body that is independent from the contract and has more authority to negotiate, to mediate, and to impose sanctions or penalties to concessionaires. The decision maker of PAM Jaya operations lies not in the hands of the national level government but the local government of DKI Jakarta. Institutions such as BAPPENAS, the Ministry of Public Works, and the Ministry of Home Affairs no longer have any authority to intervene with the contract, although during the negotiation process they were involved. The Governor of Jakarta has the authority to establish and to appoint a new regulatory body that is independent of the concession contract. This regulatory body needs to have a bigger capacity to perform research, and to hire legal counsel that enables them to level sanctions and penalties to the private concessionaires if there are unmet targets or other violations of the contract.

PAM Jaya and private concessionaires needs to create a new concession contract amendment to set up a clear system for tariff increases, rate rebasing, and tariff levels. This amendment should also address a negotiation effort to reduce the internal rate of return since the condition of the country, the risk of the project, security, and other factors that influence the internal rate of return have changed considerably.

Although non-revenue water loss was significantly reduced in the last five years, the rate (40%) is still higher than the international standard of 30%. PAM Jaya and private concessionaires should continue working to increase efficiency of existing connections so that the available water can be translated to increasing the network.

The lack of raw water supply and the fluctuation of raw water availability continue to be the sources of low water quality, unreliable service of the network, and an obstacle to new development water plants. PAM Jaya and private partners should work on providing a solution to the raw water supply.

5.4.2. Quadrant II: possible diagnoses

JWRB has limited authority since the organization was created under the concession contract. With limited resources and funding, it also suffers from the inability to monitor and to impose sanctions or penalties to concessionaires when they have limited resources and funding. In addition, JWRB has a conflicted responsibility to the customers and to the concessionaires at the same time, which makes it difficult to perform its duties.

There is an unclear legal basis regarding rate rebasing and tariff increase. High cross-

subsidy tariff also increases the likelihood of an imbalanced budget between the tariff and water charge putting PAM Jaya into a difficult position between paying the fees to the concessionaires or debts to the Ministry of Finance.

The internal rate of return was still based on the economic conditions and risk calculations of 1995, which did not reflect the condition and risk in 2001 and the current condition of the country and the project.

The issue of water theft has increased partly because of the inefficient tracking system of water distributed versus water charged and lack of water theft enforcement system. PAM Jaya and private partners should be working to create a better system in tracking water delivered and enforcement system for their employees.

5.4.3. Quadrant III: general approaches

The proposed general approach are: (1) the Governor of Jakarta needs to find a new framework for an independent regulatory body that will have the authority to deliver, mediate and negotiate every dispute that PAM Jaya has with the private partners; and (2) the Governor of Jakarta has a major role in making political decisions to establish a new regulatory body and to find sources of funding for this crucial organization. The regulatory body ideally would have representative of all involved parties, including customers.

PAM Jaya and private concessionaires should revisit the internal rate of return based on the risk and economic condition in 2001 and to set a balance between the profits of the private partners and the benefits to PAM Jaya as the asset owner.

5.4.4. Quadrant IV: specific actions

The Governor of Jakarta has a major role in the conflict between PAM Jaya and its private partners and in making a political decision to establish a new regulatory body that has independence and authority to mediate, negotiate, and regulate the water supply sector. The regulatory body has to involve customers in order to maintain regulatory purpose to hold PAM Jaya and the concessionaires accountable for any unmet targets for the next 12 years.

The new regulatory body has to revisit the concession contract and develop an amendment that fills the gap of the rate rebasing and tariff increase process. The new regulatory body should conduct a willingness-to-pay survey to customers and non-customers to set the base of tariff and a new tariff structure.

5.5. Lessons learned from the four-quadrant analysis of institutional conflict

From the four-quadrant analysis, we learned that within the Jakarta concession contract, there were several institutional conflicts such as:

1. Lack of trust among institutions had created on-going conflicts in tariff setting, rate-rebasing, and employee management.
2. The lack of trust started from the closed-bidding tender and lack of legal basis of public private partnerships in water supply provision and continued throughout the contract.
3. The closed-bidding and lack of transparency in the process that happened during Suharto administration raised concerns of the community including NGOs and Indonesian customers foundation that did not support the involvement of the private sector in public service.
4. The difficulties in setting tariff, water charged, and internal rate of return hindered investments and network expansions.
5. Capacity issues within PAM Jaya continued to hinder the progress of the contract.

6. The lack of authority of JWRB to enforce regulations and the terms of contract prolonged the conflict.

In the next chapter, we will discuss several recommendations to address these issues.

Chapter Six: Conclusions and Recommendations

6.1. Conclusions

The public-private partnership in drinking water supply in Jakarta did not start well. The closed-door concession contracts created an imbalanced relationship between the first party (PAM Jaya) and its private concessionaires, which influenced the progress of the contract every step of the way. When I started the research, my assumption was this partnership failed to expand drinking water supply network to 90% of the Jakarta population, especially to low-income areas. The progress I found was that the concession contract could have worked well, with several pre-conditions, such as political support, macroeconomic stability, and strong regulation.

Despite the challenges and many conflicts among the parties, the concession contract cannot be categorized as a failure. Its progress has been better, especially in the last five years. Further, in my research I framed the questions into "what works and what does not" in the context of public-private partnership in drinking water supply in Jakarta. My analysis focused on conflict management among the parties to creatively view alternatives, options that could be taken to create a better working environment in the system in the remaining 12 years of the contract.

The long history of conflict among the parties started from the weak legal basis on the concession contract process and continues to the lack of regulation, weak regulator capacity and authority. In public perception, rather than increasing credibility of the system, the regulator added burden to the system without significant contributions in handling

conflicts. The unresolved issues such as tariff, internal rate of return, and revenue sharing, and lack of trusts among institutions have hindered the progress of the system.

The Jakarta concession has two different tariff systems: (1) tariff paid by customers, which consists of five groups based on household income and establishments; and (2) water charged in which the private partners are paid based on the volume of water billed. The tariff is increased periodically every semester, while the increases in water charged based on the operational cost of water supply and the long term internal rate of return. These two different systems have created a gap in the operational budget of PAM Jaya and the private concessionaires. On the customers' side, tariff reform is needed to reduce the high cross-subsidy system to create a balanced budget within PAM Jaya and the private partners. Tariff reform has been supported by previous studies and opinions of several stakeholders involved. Although it seems that the current tariff level protects the lowest income customers, this tariff system has not been effective in increasing new connections in poor households, slums, and kampung. Meanwhile, low-income residents pay about eight to ten times for water from vendors. Surprisingly, there never has been a thorough willingness-to-pay study conducted to better design tariff levels that could encourage new connections and to cover the operational cost of producing drinking water.

The on-going disputes among PAM Jaya and private partners are also fueled by lack of trust and unclear roles in the contract. Since the beginning of the contract, disputes regarding employee management have caused many lawsuits and riots of employees defending their rights as "civil servants" and their rights to accept similar treatments as the original employees of the private companies. The dispute continues although JWRB was established as a mediator.

Local capacity issues such as employees allegedly providing aid to residents to steal water is another challenges that PAM Jaya and private partners have faced. The difficulties to discipline employees and to take actions for their misconduct continue to hinder the efficiency of the water supply system to provide a better service to residents. The lack of regulation and enforcement have contributed to this on-going issue.

Aside from the management of water supply network, the issue of water scarcity is another major challenge not just for the drinking water sector but also for tourism, agriculture, industry, and health. An integrated strategy to manage raw water supply would require collaborations with other institutions such as the Ministry of the Environment, the Ministry of Health, and especially the Ministry of Public Works.

Despite unmet technical targets and customer service, the concession contract is in place, the water supply network is expanding, and the private concessionaires are still operating. Another question raised is, "What is PAM Jaya's preparation to take over the management after the concession contract is ended in 2022?"

6.2. Recommendations

From my journey researching this story, I propose several options to overcome the problems:

1. Concession Contract Renegotiation

In order to work better in the next 12 years of the partnerships and yield significant changes that will benefit the people, the concession contract has to be renegotiated. The

current contract is based on high profits to the private partners, with the rate of revenue based on the Indonesian economy in 1998. The economic crisis in 1998 changed the situation of the country, which should be counted towards the risk of doing business in Indonesia. The internal rate of return current rate is 22% interest, while a previous study had identified that the private partners could profit only with 14% interests (Jensen, 2004, p. 41). This rate change could reduce the tariff and costs significantly and lower the burden of the community.

2. An Independent Regulator Creation

The current regulator, JWRB, was created under the RCA 2001. From the case study in Manila, Philippines, we learned that an independent regulator worked effectively to monitor the implementation of the contract. Currently, JWRB has no authority to prosecute, nor to impose sanctions and penalties to private partners. The organization consists of a small group of part-time researchers with low budget that was taken from tariff revenue.

Jakarta's role as a capital city increased the likelihood of national organizations such as BAPPENAS (Badan Perencanaan dan Pembangunan Nasional or National Development Planning Agency) or the Ministry of Public Works getting involved, the authority of water supply provision lies within the local government. The Governor of Jakarta and the local parliament are the two authorities that have the power to make political decisions in creating this independent regulator outside of the concession contract.

3.Tariff reform

The current tiered tariff scheme is aimed to protect the poorest customers. The lowest income customers would pay only 1/13 of the operating cost of water. Because of this lower

tariff, PAM Jaya has to pay for the difference between the tariff payment and the water charged billed by the private partners. Compared with other cities in Indonesia, Jakarta still has the lowest tariff: the lowest tariff in Jakarta is IDR 1,050, while in smaller cities such as Semarang, the lowest tariff is IDR 1,300 and in Bogor IDR 1,200.

The poor communities who are not connected paid 8-10 times more for water from vendors. Despite this tariff scheme, water connections have not expanded to the lowest income communities. What was meant to be a protection program has become a barrier for expansion to the target population.

There has never been a thorough study conducted to find the willingness-to-pay for water in Jakarta. The JWRB conducted a simple willingness-to-pay study with the conclusion that if there is water to consume, people will be willing to pay. The willingness-to-pay study would aid PAM Jaya and private partners to define an affordable tariff that is realistic to support the operational costs of producing water.

4. Focus on the problem of water scarcity.

Aside from the technical and operational issues, the Jakarta water supply system faces more urgent issues such as water scarcity. The stakeholders of the Jakarta water supply need to collaborate with other institutions such as the Ministry of Public Works to address this issue.

5. Obtain more international aid to improve the technical and institutional management of the system

The intention of the public - private partnership was good, but the lessons learned have

proved that capacity building and institutional management of the system need to be improved first before an efficient public service network could benefit the community and not create an ongoing conflict that deters progress.

1. Human resources trust building among institutions

Trust building among institutions needs to be developed in order to increase the efficiency of the partnerships. The current situation has improved compared to the beginning of the contract; however, many more issues such as employee compensations and pensions among PAM Jaya's transferred employees and the private partners employees still need to be addressed.

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